

REMARKS

Claims 1-39 were previously pending in this application. By this amendment, Applicant is canceling claim 23 without prejudice or disclaimer, since claim 23 appears to be identical to claim 19. Claims 1, 3, 5, 13, 16, 18, 22, 26-27, 32-34, 36-37, and 39 have been amended. Applicant has amended claims 5, 13, 18, 22, 26, 32-33, 36-37, and 39 to correct minor typographical errors and correct English syntax. These amendments do not change the scope of the claims and have not been made in view of the cited art, or for any other reason for patentability. New claims 43-46 have been added. As a result, claims 1-22, 24-39 and 43-46 are pending for examination with claims 1, 16, 27, 34, 37, 43 and 45 being independent claims. No new matter has been added.

Rejections under 35 U.S.C. § 112¶1

Initially, the undersigned wishes to thank Examiner Yang for the courtesies extended in granting and conducting a telephone interview on April 7, 2004. The substance of the telephone interview is summarized in the following paragraph.

Claims 1-36, 38 and 39 stand rejected under 35 U.S.C. § 112¶1 as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, Examiner Yang objected to the terms "rendered simultaneously" since Fig. 4 showed that the tiles were displayed together, and may not necessarily have been initially rendered on the screen simultaneously. As such, Applicant has amended claims 1, 3, 16, 27, and 34 to recite that the tiles are displayed together. As discussed in the interview and agreed to by Examiner Yang, Applicant believes these amendments to be fully supported by the specification as originally filed such that the objection under § 112 should be withdrawn.

Claims 2-15, 17-26, 28-33, 35, 36, 38, and 39 depend from independent claim 1, 16, 27, or 34, and are patentable for at least the foregoing reasons.

Rejections under 35 U.S.C. § 102

Claims 1, 3-7, 9, 16-17, 19, 27-28, 30, and 34-35 stand rejected under 35 U.S.C. § 102 as being unpatentable over U.S. Patent No. 5,616,079 to Iwase et al. [hereinafter Iwase]. Applicant respectfully traverses the rejection as follows.

Iwase is directed to a 3-dimensional game machine which can form pseudo-3-dimensional images in real time. (*See* Iwase, Abstract). Specifically, Iwase divides the map of the game space into segments. For each display segment, Iwase generates images of differing resolution for each display segment based upon the distance of the segment from the position and line of sight of the vehicle operated by the player. (*See* Iwase, Col. 2, lines 37-57 and Col. 3, lines 18-21). In this manner, the objects close to the vehicle's line of sight are rendered with a high resolution, and correspondingly, those objects distant from the vehicle's line of sight are rendered at a lower resolution to increase processing speed. (*See* Iwase, Col. 3, lines 18-21 and Col. 5, lines 59-67). Each object in each segment is a line drawing (*see* Iwase, Figs. 2-5), divided into polygons and stored as vertex information. (*See* Iwase, Col. 1, lines 41-45; Col. 9, lines 49-52; and Col. 10, line 66 - Col. 11, line 16). Thus, Iwase discloses displaying line drawn objects of differing resolution and detail, each object having the same perspective viewing angle.

In contrast, claim 1, as amended, recites, *inter alia*, a computer-readable medium having stored thereon a tile data structure for a tile representing an image texture for tiled texture mapping, comprising plural tile data structures representing plural respective views of the image texture displayed together on a display screen immediately adjacent each other. As described in Applicant's specification at page 1, lines 11-14, texture mapping refers to "adding texture, color, shading, illumination, transparency, as well as other image attributes, to the surface of an image geometry." Furthermore, Applicant's specification at page 2, lines 1-2 states that "Texture mapping is the general process of wrapping an image around a geometry and rendering the results." Iwase neither discloses nor suggests any type of texture mapping on any surface of any object, particularly since Iwase creates objects as line drawings constructed from polygons. In fact, since Iwase merely creates the geometry of an object, there are no surface attributes at all in Iwase.

Thus, claim 1 patentably distinguishes over Iwase such that the rejection under § 102 should be withdrawn.

Claims 3-7 and 9 depend from claim 1, and for at least the foregoing reasons are also patentable over Iwase.

Iwase does not teach or suggest the features of claim 16, as amended, including, *inter alia*, a method of applying a texture map to an image surface comprising displaying the texture map tiles together at the adjacent regions on the computer display screen to form the texture map on the image surface. As noted above with respect to claim 1, Iwase does not teach or suggest applying a texture map to an image surface, much less displaying respective texture map tiles to form the texture map on the image surface. Iwase does not display anything on an image surface of the polygon based objects. Thus, claim 16 patentably distinguishes over Iwase such that the rejection under § 102 should be withdrawn.

Claims 17 and 19 depend from claim 16 and are patentable for at least the foregoing reasons.

Iwase does not teach or suggest the features of claim 27, as amended, including a method of generating a tile data structure representing an image texture for a tiles texture mapping comprising, *inter alia*, determining plural selected viewing angles for viewing together plural adjacent tiles of the image texture. Rather, as noted above with respect to claim 1, Iwase merely renders line drawings of polygon based objects with no texture mapping. Thus, claim 27 patentably distinguishes over Iwase such that the rejection under § 102 should be withdrawn.

Claims 28 and 30 depend from independent claim 27 and are also patentable for at least the foregoing reasons.

Claim 34, as amended, recites, *inter alia*, software instructions for applying a texture map to an image surface in a graphics image comprising software instructions for displaying together the texture map tile at the region on the computer display screen. As discussed above with respect to claim 1, Iwase does not teach or suggest any texture mapping. Accordingly, claim 34 distinguishes over Iwase and withdrawal of this rejection is respectfully requested.

Claim 35 depends from independent claim 34, and is patentable for at least the foregoing reasons.

Rejections under 35 U.S.C. § 103

Claims 2, 8, 10-12, 15, 18, 20-24, 26, 29, 31, 33, 36-37, and 39 stand rejected under 35 U.S.C. § 103 as being unpatentable over Iwase. Applicant respectfully traverses the rejection as follows.

Initially, claims 2, 8, 10-12 and 15 depend from independent claim 1, and are patentable for at least the same reasons set forth above. Similarly, claims 18, 20-24, and 26 depend from independent claim 16 and are patentable for at least the same reasons set forth above. Claims 29, 31, and 33 depend from independent claim 27, and claims 36 and 39 depend from independent claim 34, and are patentable for at least the same reasons as set forth above.

Independent claim 37, as amended, recites, *inter alia*, software instructions for correlating each viewing angle with a texture map tile corresponding to the viewing angle, each texture map tile being based upon a predetermined tile structure and including an oblique parallel projection of the predetermined tile structure. As noted above with respect to claim 1, Iwase does not teach or suggest any texture mapping. Moreover, Applicant agrees with the Examiner's assertion that Iwase does not teach or suggest employing a texture map tile including an oblique parallel projection. However, Applicant respectfully disagrees with the conclusion that a texture map tile including an oblique parallel projection of a predetermined tile structure would have been obvious. As noted in Applicant's specification at page 14, lines 24-25, the two common graphics imaging projections are perspective and orthographic projections. In this respect, nothing in the prior art of record would have motivated one skilled in the art to render an image texture based upon an oblique parallel projection as claimed in claim 37. Instead, the rejection appears to be based on alleged common knowledge in the art or "well-known" prior art, pursuant to M.P.E.P. § 2144.03. Applicant respectfully traverses the assertion in the Office Action that there is any well-known art that would have rendered it obvious to one of ordinary skill in the art to render a texture mapping based upon an oblique-parallel projection. If the rejection of claim 37 as being obvious over Iwase is to be

maintained, the Examiner is respectfully requested to cite a reference in support of this position as required under M.P.E.P. § 2144.03 or if the Examiner is relying upon facts within his personal knowledge, to file an affidavit establishing those facts pursuant to § 2144.03. As stated in that M.P.E.P. section, the reliance upon facts that are purportedly common knowledge or "well-known" should only be relied upon for facts that "fill in the gaps" in the factual showing of obviousness and should not comprise "the principle evidence upon which a rejection was based." Here the motivation for modifying texture mapping of Iwase, if any exists, to be based upon an oblique-parallel projection is without foundation in the prior art of record, and is respectfully believed to render the rejection improper under M.P.E.P. § 2144.03.

Rather than rely on the teachings of the prior art of record, the rejection of claim 37 under § 103 appears to suggest the modification of the graphic images of Iwase in a manner that reconstructs Applicant's invention only with the benefit of hindsight. This is improper and fails to present a *prima facie* case of obviousness. Accordingly, Applicant respectfully request withdrawal of this rejection.

Claims 2, 24, and 29 have also been rejected based upon a similar conclusion of "well-known" prior art. Applicant also respectfully traverses these rejections under § 103 and requests the Examiner cite a reference to support this position or file an affidavit asserting facts within his personal knowledge.

New Claims

Claims 43-46 have been added to further define Applicant's invention.

Claim 43 recites, *inter alia*, computer software instructions for applying a texture map to an image surface in a graphics image including identifying an array of regions of the image surface to which the texture map is to be applied and determining a projection viewing angle for each region of the array. None of the cited references disclose or suggest determining a projection viewing angle for each region in an array of regions of the image surface. Accordingly, Applicant respectfully requests allowance of claim 43. Claim 44 depends from claim 43 and is allowable for at least the same reasons.

Claim 45 recites, *inter alia*, computer readable medium having stored thereon a tile data structure for a tile representing an image texture for tiled texture mapping


comprising an array of plural data tile data structures. The plural tile data structures comprise a first data structure representing a projection view of the image texture based upon a first viewing angle and a second data structure representing a projection view of the image texture based upon a second viewing angle. The first and second viewing angles are different. None of the cited references teach or suggest the features of claim 45. Claim 46 depends from claim 45, and is patentable for at least the same reasons.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, please charge any deficiency to **Deposit Account No. 50-0463**.

Respectfully submitted,
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